

### ABSTRACT OF THE DISCLOSURE

5 A process for concurrently fractionating and treating a full range naphtha stream. The full boiling range naphtha stream is first subjected to simultaneous thioetherification and splitting into a light boiling range naphtha, an intermediate boiling range naphtha and a heavy boiling range naphtha. The intermediate boiling range naphtha containing thiophene and thiophene boiling range mercaptans is passed on to a polishing hydrodesulfurization reactor where a low sulfur, low olefin gas oil is concurrently fed to the polishing reactor to insure that a liquid phase is present.